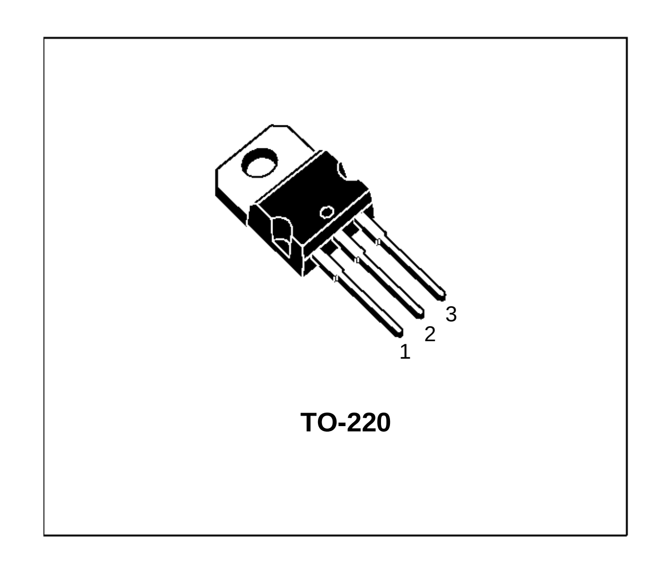


BUV27

SILICON NPN SWITCHING TRANSISTOR

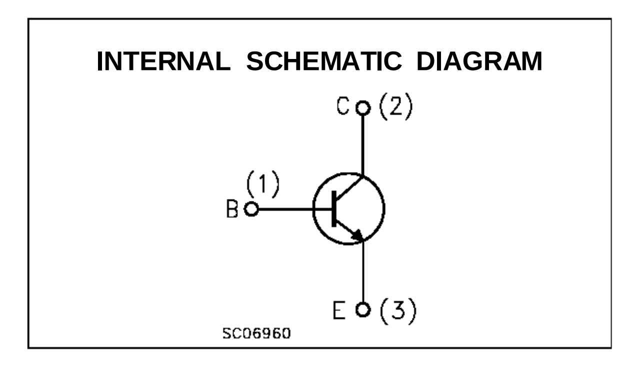
- VERY LOW SATURATION VOLTAGE
- FAST TURN-OFF AND TURN-ON

DESCRIPTION
High speed transistor suited for low voltage applications.
High frequency and efficiency converters switching regulators motor control.



TO-220

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage (I_E = 0)	240	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	120	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	7	V
I_C	Collector Current	12	A
I_{CM}	Collector Peak Current	20	A
I_B	Base Current	4	A
I_{BM}	Base Peak Current	6	A
P_{tot}	Total Dissipation at Tc < 25 ^oC	85	W
P_{tot}	Total Dissipation at T_c < 60 ^oC	65	W
T_{stg}	Storage Temperature	-65 to +175	^oC
T_j	Max. Operating Junction Temperature	175	^oC

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.76	$^{o}C/W$

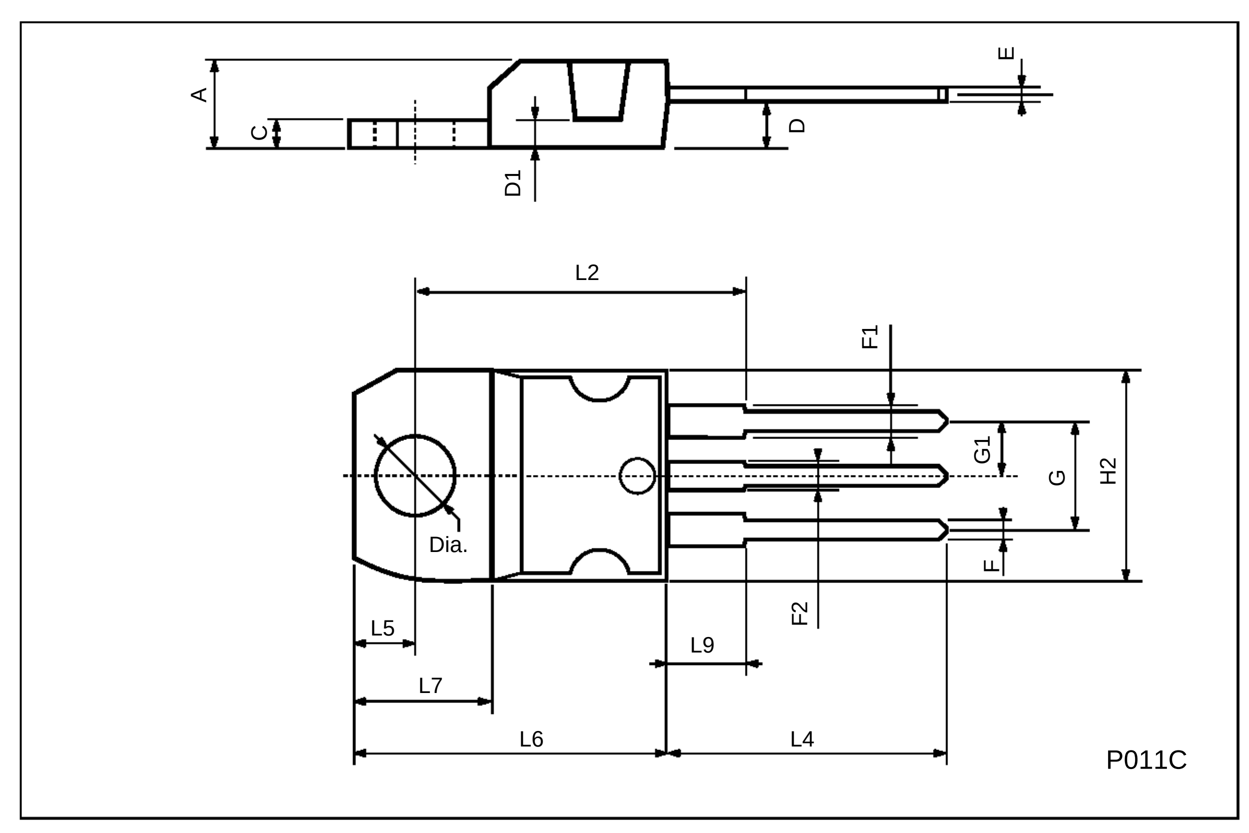
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^{o}C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cut-off Current (R_{BE} = 50Ω)	V_{CE} = 240V T_c = 125^{o}C			3	mA
I_{CEX}	Collector Cut-off Current	V_{CE} = 240V V_{BE} = -1.5V T_c = 125^{o}C			1	mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			1	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage	I_C = 0.2mA L = 25mH	120			V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	I_E = 50mA	7		30	V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 4A I_B = 0.4A I_C = 8A I_B = 0.8A			0.7 1.5	V V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = 8A I_B = 0.8A			2	V
 t_{on} t_s t_f	**RESISTIVE LOAD** Turn-on Time Storage Time Fall Time	 V_{CC} = 90V I_C = 8A V_{BE} = - 6V I_{B1} = 0.8A R_{BB} = 3.75Ω		 0.4 0.5 0.12	 0.8 1.2 0.25	 ms µs µs
 t_s t_f t_s t_f	**INDUCTIVE LOAD** Storage time Fall Time Storage Time Fall Time	 V_{CC} = 90V I_C = 8A I_{B1} = 0.8A V_{BE} = - 5V L_B = 1µH V_{CC} = 90V I_C = 8 A I_{B1} = 0.8A V_{BE} = - 5V L_B = 1µH T_j = 125^{o}C		 0.6 0.04	 2 0.15	 µs µs µs µs

∗ Pulsed: Pulse duration = 300µs, duty cycle = 2 %

TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151




SGS-THOMSON
MICROELECTRONICS